

Work Order ID 149199

July 21, 2016 3:20:22 PM

149199

Page 1

Item ID: D6101-005 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Saddle Billet
 Start Date: 9/6/2016 Start Qty: 20.00 ***20*** Cust Item ID:
 Required Date: 9/20/2016 Req'd Qty: 20.00 ***20*** Customer:
 Reference:

Approvals: Process Plan: u Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D6101	Rev B								

100 PURCHASING 0.00
100
 Purchasing
 Purchasing

Memo
 Issue P/O: 33040
 a) Description: Alluminum billet
 b) 5.00" x 8.250" x 2.50" thick
 c) Tolerance on all dimensions are +0.030"/-0.000"
 d) Grain direction along 5.00" length
 e) Material: 7075-T7351 (QQ-A-250/12)
 f) Material certification required

u 160722

110 Receive & Inspect for Damage & Mat'l Certs 0.00
110
 Packaging
 Packaging

Memo
 Ensure material certification is attached

20x SP16-8-12

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause			FAULT CATEGORY							
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong
Design	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence
Past Expiry Date	☐	Manufacturing Process	☐	OTHER :						
Misidentified	☐	Past Due	☐							

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149199

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Item Name: Saddle Billet
Start Date: 9/6/2016 Start Qty: 20.00 ***20*** Cust Item ID:
Required Date: 9/20/2016 Req'd Qty: 20.00 ***20*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	QC6- Inspect dimensions to drawing	0.00							DAS 14 9-89
120						20	0		16/08/20
QC	Memo	0.00							
Quality Control	Ensure Material certification comply to Dwg D6101								
130	Identify as per dwg & Stock Location: MAT041	0.00							DAS 14 9-89
130						20	0		16/08/20
Packaging	Memo	0.03							
Packaging	LOCATION: MAT041								
140	QC21- Final Inspection - Work Order Release	0.00							
140									DAS 21 9-89
QC	Memo	0.33							AUG 2 2 2016
Quality Control									

DAS
21
9-89

AUG 2 2 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			Completed By
					Lead hand / Supervisor Approval Verification
					QC / QA Coordinator Approval
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER :					

Picklist Print

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Page 1

Work Order ID: 149199

149199

Parent Item: D6101-005

D6101-005

Parent Item Name: Saddle Billet

Start Date: 9/6/2016

Required Date: 9/20/2016

Start Qty: 20.00

Required Qty: 20.00

Comments: IPP A: 01.05.04New IssueEC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
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D6101-005P

Purchased

No

110

Each

0.0000

1

20

D6101-005P

7075-T7351 8.25X5.0X2.5

20x SP/6-8-12

DQA: _____ Date: _____



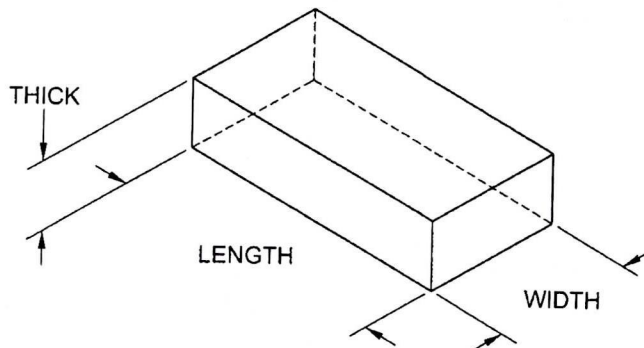
WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							

SPECIFICATION CONTROL DRAWING



PURCHASE MATERIAL ACCORDING TO THE FOLLOWING TABLE. SPECIFY ALLOY, LENGTH x WIDTH x THICK (+0.030/-0.000), AND GRAIN DIRECTION AS SHOWN.

TOLERANCES ON ALL DIMENSIONS ARE +0.030/-0.000.

ALL DIMENSIONS ARE IN INCHES.

B ACCEPTABLE SPECIFICATIONS FOR 7075-T7351 ALUMINUM ARE AMS-QQ-A-250/12, QQ-A-250/12, OR ASTM B209

Part No.	Alloy	Length	Width	Thick	Grain Direction
D6101-001	7075-T7351 (QQ-A-250/12)	6.000	6.250	2.000	Along 6.000 Length
D6101-003	7075-T7351 (QQ-A-250/12)	7.875	6.250	2.000	Along 7.875 Length
D6101-005	7075-T7351 (QQ-A-250/12)	5.000	8.250	2.500	Along 5.000 Length
D6101-007	7075-T7351 (QQ-A-250/12)	7.750	8.250	2.500	Along 7.750 Length
D6101-009	7075-T7351 (QQ-A-250/12)	8.700	8.250	2.500	Along 8.700 Length
D6101-011	7075-T7351 (QQ-A-250/12)	9.700	8.250	2.500	Along 9.700 Length
D6101-013	7075-T7351 (QQ-A-250/12)	10.100	8.250	2.500	Along 10.10 Length
D6101-015	7075-T7351 (QQ-A-250/12)	9.450	6.250	2.500	Along 9.450 Length
D6101-017	7075-T7351 (QQ-A-250/12)	6.350	6.250	2.250	Along 6.350 Length

RELEASED
09/07/15/WP

B	ADDED D6101-015/-017, ADD ASTM B209	RF	09.04.23
A	NEW ISSUE	CP	01.03.30
REV.	DESCRIPTION	BY	DATE
DESIGN	CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	<i>[Signature]</i>	DRAWING NO. D6101 REV. B SHEET 1 OF 1	
MFG. APPR.	<i>[Signature]</i>		
APPROVED	<i>[Signature]</i>	TITLE SADDLE BILLET, 7075 SCALE NTS	
DE APPR.	<i>[Signature]</i>		
DATE	09.04.23	COPYRIGHT © 2001 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
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Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO33140**

Purchase Order Date 7/22/2016

PO Print Date 7/22/2016

Page Number 2 of 3

Order From :

VU-MET002

METAUX CASTLE
P.O. BOX 4090 STN A
TORONTO, ONTARIO M5W OE9
CANADA

Ship To :

DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name

Vendor Phone

Ship To Contact

Ship To Phone

Ship Via: Yours ppd

Ship Acct:

Buyer

Customer POID

Customer Tax # 10127-2607

Terms Net 30

Currency USD

FOB Destination-Collect

D6101-005P

7075-T7351 8.25X5.0X2.5

8/10/2016

Yes

8/10/2016

20.00

Each

\$36.20

\$724.00

AS PER DWG D6101 REV. B

B149199

MATERIAL: 7075-T7351 (QQ-A-250/12)

SIZE: 5.00" X 8.250" X 2.50" THICK

GRAIN DIRECTION ALONG: 5.00" LENGTH

TOLERANCE AS PER QUOTE +.030"/-.000"

8/16-8-12

Line Total:

\$724.00

4 D6101-017P

ALUM BILLET

8/10/2016

Yes

8/10/2016

10.00

Each

\$32.15

\$321.50

AS PER DWG D6101 REV. B

B149294

MATERIAL: 7075-T7351 (QQ-A-250/12)

SIZE: 6.350" X 6.250" X 2.50" THICK

GRAIN DIRECTION ALONG: 6.350" LENGTH

TOLERANCE AS PER QUOTE +.030"/-.000"

Line Total:

\$321.50

Note:

7/22/2016

**Castle Metals®**

A. M. Castle & Co.

PACKING SLIP/
CERTIFICATE OF CONFORMANCE

Page 1 of 2

Shipment No:3048186

Ship From:		Sold To:		Ship To:		Deliver To:	
A. M. CASTLE & CO. 2150 ARGENTIA ROAD MISSISSAUGA, ON L5N 2K7 CAN		DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA		DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CAN		DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA	
Date Shipped	F.O.B.	Freight Terms		Carrier		BOL No	
11-AUG-16	ORIGIN	Prepaid		MANITOULIN		3048186-2	

Shipment Details	Final Destination Branch - TOR
-------------------------	---------------------------------------

Order No	Line No	Item No	Description	
4439080	3	752241.MO	2.5000.PL.7075.T7351.ALUMINUM.USI.48.5000.144.5000 CUT 2SIDED TO 8.25 IN (+ .0300/- .0000 IN (GRAIN TO RUN ALONG 5.00")) X 5 IN (+ .0300/- .0000 IN (GRAIN TO RUN ALONG 5.00")) - ALUMINUM PLATE SAW SPECIFICATIONS: AMS	
Purchase Order No	Part Number		Ordered Qty	Invoice Qty
PO33140	YOUR ITEM NUMBER: D6101-005P		20.00 PCS	20.00 PCS

Details	ALL PAPERWORK MUST FOLLOW ORDER / CUSTOMER MUST RECEIVE AT TIME OF DELIVERY ALL MATERIAL MUST HAVE IDENTIFYING MARKINGS EX:HEAT #'S Email P/s and certs to: clavoie@dartaero.com END USER: DART AEROSPACE END USE: COMMERCIAL AIRCRAFT PARTS ECCN#: EAR99 CANADA DART AEROSPACE LTD.
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8/16-8-12

Delivery No. 120500664	Mill	Heat Number 	Mech Id	PCS 20	Width (IN)	Length (IN)	Shipped Qty(LBS) 213.3121
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Castle Metals®

A. M. Castle & Co.

PACKING SLIP/
CERTIFICATE OF CONFORMANCE

Page 2 of 2

These commodities/technologies are subject to US Export Administration & US State Dept. Regulations and, if intended for export, were/are exported thereunder. Diversion contrary to US Law is Prohibited.		
We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material cut to the correct size, or material cut by the customer cannot be returned for credit.		
Reviewed by Authorized Castle Metals Representative:	Date:	Name:

Chris Galt

AUG 11 2016



Sp16-8-12.

SHIP TO:

A M CASTLE & CO
3050 SOUTH HYDRAULIC
WICHITA, KS 67216

KAISER ALUMINUM

Trentwood Works - Spokane, WA 99215

Phone: (800) 367-2586

CERTIFIED TEST REPORT

Serial Number

4403443

SOLD TO:

AM CASTLE & CO- SOLD TO
1420 KENSINGTON RD
SUITE 220
OAK BROOK, IL 60523

CUSTOMER PO NUMBER: 344049		WORK PACKAGE: 752241		CUSTOMER PART NUMBER:		SHIP RUN/LOAD: 103437/9		GOV'T CONTRACT NUMBER:	
KAISER ORDER NO: 1199092	LINE ITEM: 1	SHIP DATE: 6-JAN-2016	ALLOY: 7075	CLAD: BARE	TEMPER: T7351	PRODUCT DESCRIPTION: KaiserSelect Plate			
WEIGHT SHIPPED: 5412 LB	QUANTITY: 3 PCS EST.	TRUCK B/L #: 2057936	GAUGE: 2.5080 IN (63.5000 MM)		DIAMETER/WIDTH: 48.500 IN (1231.9 MM)		LENGTH: 144.500 IN (3670.3 MM)		

MHU 1960912; LOT 159738B4; 1 pieces;

MHU 1960921; LOT 782747A0; 2 pieces;

Certified Specifications

AMS 4078/RevJ
ASTM B 209/Rev14
BSS 7055/RevB
DPS 4.713/RevAK
MMS 159/RevT

AMS-00-A-250/12/RevA
ASTM B 594/Rev13
CMMP 025/RevU
GAMPS 9101/RevB/AmdSCN1
PS 21211/RevM

AMS-STD-2154/RevA
BAC 5439/RevJ
CSTI 008/RevE
GSS16100/RevG/Amd1

Test Code: 4297

Test Results

Lot: 159738B4 Cast 108 Drop 25 Ingot 5 Melted in USA

(ASTM E8/B557)
(EN 2002-1)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T7351	LT / 2 (Min:Max)	68.8 : 69.0 (474 : 476)	57.6 : 57.7 (397 : 398)	11.4 : 11.9

(ASTM E1004)
(EN 2004-1)
Conductivity %IACS : 40.1 Min 40.4 Max
(MS/M) : 23.3 Min 23.4 Max

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual(wt%)	0.08	0.19	1.5	0.05	2.5	0.20	5.7	0.03	0.01	0.01	TOT 0.05



KAISER ALUMINUM

Trentwood Works - Spokane, WA 99215
Phone: (800) 367-2586

CERTIFIED TEST REPORT

Serial Number
4403443

Lot: 782747AD Cast 108 Drop 25 Ingot 5 Parent Lot: 159738B4 Melted in USA

(ASTM B8/B557)
(EN 2002-1)

Tensile:	Temper T7351	Dir / # Tests LT / 2 (Min:Max)	Ultimate KSI (MPA) 69.0 : 69.6 (476 : 480)	Yield KSI (MPA) 58.0 : 58.8 (400 : 405)	Elongation % 11.2 : 11.5
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(ASTM E1004)
(EN 2004-1)

Conductivity %IACS :	39.7 Min	40.4 Max
(MS/M) :	23.0 Min	23.4 Max

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual(wt%)	0.08	0.19	1.5	0.05	2.5	0.20	5.7	0.03	0.01	0.01	TOT 0.05

ALLOY LIMITS

	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER	MAX
7075												
MIN(wt%)	0.00	0.00	1.2	0.00	2.1	0.18	5.1	0.00	0.00	0.00	EACH	0.05
MAX(wt%)	0.40	0.50	2.0	0.30	2.9	0.28	6.1	0.20	0.05	0.05	TOT	0.15

Aluminum Remainder

ORDER COMMENTS

AMC CA-15413B R 6
AMS 4078,AMS QQ-A-250/12,AMS STD-2154,A
STM B209,ASTM B594,BS
S 7055,CMMP 026,CSTI 006,DPS 4.713,GAMP
S 9101,MMS 159,PS 212

11

TEST NOTES

Metal represented by this test report was 100% Type I
(Immersion) ultrasonically tested from one side with 3mm
dead zones top and bottom and meets the Class A and Class B
requirements of all specifications referenced on this test
report. No surface marking of sonic indications is
performed.





Trentwood Works - Spokane, WA 99215
Phone: (800) 367-2586

CERTIFIED TEST REPORT

Serial Number
4403443

CERTIFICATION

Kaiser Aluminum Fabricated Products, LLC (Kaiser), is ISO-9001:2005/AS9100C certified and hereby certifies that all material shipped under this order:

* has been inspected, tested, and found to be in conformance with the requirements of the specifications indicated herein. For material thicknesses outside specification limits, mechanical properties are as shown herein and chemical composition meets specification requirements.

* was melted in the United States of America or a qualifying country per DFARS 225.672-1(a), was manufactured in the United States of America, and meets the requirements of DFARS 252.225 for domestic content.

* has been thermally processed in compliance with AMS 2772, where applicable;

* is mercury free, within the limits of detection of ASTM E1251 (< 1 ppm);

* is in compliance with RoHS 2, European Union Directive 2011/65/EU.

* is in compliance with and regularly monitors any updates to the European Chemical Agency, ECHA, REACH regulations, (EC) n°1907/2006.

* is free of Conflict Minerals, as defined in Section 15.2 of the Dodd-Frank Act.

Any warranty is limited to that shown on Kaiser Aluminum's standard general terms and conditions of sale. Test reports are on file, subject to examination. Test reports shall not be reproduced except in full, without the written approval of the Kaiser Aluminum laboratory. The recording of false, fictitious or fraudulent statements or entries on the certificate may be punished as a felony under federal law.

JAMES HEMMENWAY, LABORATORIES SUPERVISOR



MATERIAL RECEIPT INSPECTION FORM

MATERIAL: DC101-05 DATE: 11/08/20
 QUANTITY RECEIVED: 40
 QUANTITY INSPECTED: 20
 QUANTITY REJECTED: 20
 THICKNESS ORDERED: 2.520
 THICKNESS RECEIVED: 2.530
 SHEET SIZE ORDERED: _____
 SHEET SIZE RECEIVED: _____
 PO / BATCH NO: 330040/149199

DESCRIPTION	NCR	(Check Y/N)	COMMENTS
SURFACE DAMAGE	☒	Y	
CORRECT FINISH	☒	Y	
CORROSION	☒	Y	
CORRECT GRAIN DIRECTION	☒	Y	
CORRECT MATERIAL	☒	Y	
CORRECT THICKNESS	☒	Y	
PHOTO REQUIRED	☒	Y	
CORRECT MATERIAL	☒	Y	
CORRECT REF # TO LINK CERT	☒	Y	
CORRECT MATERIAL IDENTIFICATION	☒	Y	
CORRECT M# ON THE MATERIAL	☒	Y	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	☒	Y	
DOES THIS REQUIRE AN EXTRUSION REPORT	☒	Y	

7075T351
 2.530
 HEAT # 382747AD
 B 149199

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK			
RECORD RESULTS BELOW			
HRC	HRB	DUR A	DUR B
TYPE OF MATERIAL SIZE OF TEST SAMPLE HARDNESS / DUROMETER READING			

Testers located in the Quality Office

QC 18 INSPECTION
 INSPECTED BY: DAS
 DATE: 11/08/20
 SIGNED OFF BY: _____
 DATE: _____

Attach this inspection sheet with the corresponding material cert and return to be scanned and received in

MATERIAL RECEIPT INSPECTION FORM

INSTRUCTIONS FOR INSPECTING BAR, TUBING, ROUND, & SHEET STOCK

1. VERIFY STOCK TO DART PURCHASE ORDER
2. MEASURE ALL DIMENSIONS FOR EACH PURCHASED STOCK
 - a. WIDTH, THICKNESS, DIAMETER, WALL THICKNESS & LENGTH
3. VERIFY CONDITION OF MATERIAL (e.g. DAMAGED, CORRODED, etc)
4. VERIFY THAT SUPPLIER HAS A NUMBER (HEAT #) ON ITS RECEIVING REPORT TO LINK TO MATERIAL CERTS
5. VERIFY MATERIAL CERTS ARE CORRECT TO THE DART PO INSTRUCTIONS
6. REMOVE / CUT A PIECE OF MATERIAL FOR SAMPLE HARDNESS TESTING

INSTRUCTIONS FOR INSPECTING SKIDTUBE & STEP EXTRUSION

1. VERIFY TO DART SUPPLIED DRAWING
 2. SAMPLE INSPECT MATERIAL IN BUNDLE TO ENSURE MATERIAL CAN BE RECEIVED INTO DART
 3. USING PORTABLE HARDNESS TESTER VERIFY HARDNESS OF THE MATERIAL TO THE DRAWING
 4. VERIFY THAT MATERIAL CERTS MATCH TO WHATS CALLED UP ON THE DART DRAWING
- AFTER MATERIAL PASSES INSPECTION**
5. HAVE DART EMPLOYEES START STOCKING MATERIAL BUT REQUEST MIN 20pcs FOR FULL INSPECTION
 6. INSPECT ALL DIMS AS PER DRAWING REQUIREMENTS

INSTRUCTIONS FOR INSPECTING CROSS TUBE MATERIAL

1. VERIFY MATERIAL CERTS MATCH THE REQUIREMENTS ON THE DART DRAWINGS
2. INSPECT MIN HALF THE BATCH OF EXTRUSION RECEIVED INTO DART
3. INSPECT MATERIAL AS PER THE EXTRUSION REPORT
 - a. WALL THICKNESS USING ULTRA-SONIC IN 4 LOCATIONS
 - b. OUTSIDE DIAMETER HIGHEST/LOWEST BOTH ENDS
 - c. INSIDE DIAMETER HIGHEST/LOWEST BOTH ENDS
 - d. STRAIGHTNESS @ CENTER OVER 12" SPAN
 - e. WALL THICKNESS USING TUBE MICROMETER HIGHEST/LOWEST BOTH ENDS
4. IDENTIFY EACH TUBE IN SEQUENCE OF INSPECTING (TUBE 1, TUBE 2,) AND W/O# AND PO#
5. RECORD ALL FINDINGS ON EXTRUSION REPORT

IF ANY QUESTIONS PLEASE SEE OC COORDINATOR BEFORE GOING FURTHER